

IN THE CLAIMS:

Please substitute the following claims for the pending claim of the same number.

1. (Previously Amended) A process for in-situ decontamination of an EUV lithography device with the following steps:

- Measuring a current degree of contamination,
- Comparing the degree of contamination with at least one given threshold value,
- Adjusting an O₂ supply to the lithography device,
- Repeating the above steps,

whereby all the steps are completed during the exposure operation.

2. (Previously Amended) A process according to claim 1, wherein in addition to adjusting the O₂ supply, UV radiation of a wavelength between 150 nm and 300 nm is radiated into the EUV lithography device.

3. (Previously Amended) A process according to claim 1, wherein the degree of contamination is measured with the help of one or several oscillators which react to a change in its surface mass by changing resonance frequency.

4. (Previously Amended) A process according to claim 1, wherein the degree of contamination is determined by reflectivity measurements.

5. (Previously Amended) A process according to claim 1, wherein the degree of contamination is determined ellipsometrically.

6. (Currently Amended) A process according to claim 1, wherein the degree of contamination is determined by measuring a ~~stream of photons~~ photocurrent.

7. (Previously Amended) A process according to claims 1, wherein the degree of contamination is determined while oxygen is being supplied.

8. (Previously Amended) A process according to claim 1, wherein a precise threshold value is given, whereby exceeding the threshold value results in oxygen in a partial pressure range between 1×10^{-10} mbar to 1×10^{-3} mbar being added, and in the event that the threshold is not reached, the supply of oxygen being stopped.

9. (Previously Amended) A device for in-situ decontamination of optical elements in an EUV lithography device, comprising: at least one measuring device to measure a degree of contamination of the optical element(s) and a connected control unit, which is connected to a device to supply O_2 to the EUV lithography device, and which is set up to compare the measured degree of contamination with at least one pre-set threshold value, and to control the supply of oxygen in relation to the corresponding comparison results.

10. (Previously Amended) A device according to claim 9, wherein the device has at least one light source for radiation in the wave length range between 150 nm and 300 nm.

11. (Previously Amended) A device according to claim 9, wherein at least one measuring device has at least one quartz crystal microwave set up inside the lithography device.

12. (Previously Amended) A device according to claim 9, wherein the measuring device has at least one additional light source and at least one detector, which are set up within the lithography device.

13. (Previously Amended) A device according to claim 12, wherein a polarizer is set up in the beam path of at least one light source, near the light source, and an analyzer is set up near the detector.

14. (Currently Amended) A device according to claim 9, wherein the measuring device has the means to measure ~~a stream of photons~~ photocurrent that is connected to an optical element in the EUV lithography device.

15. (Previously Amended) A device according to claims 9, wherein a measuring device connected to the control unit is set up as a residual gas-measuring device.

IN THE DRAWINGS

Corrected FIG. 1 is submitted herewith having labels as suggested by the Examiner. New FIG. 2 is also submitted to illustrate claimed features as requested by the Examiner. No new matter has been added.